[0075] Therefore, if motor **33** is driven, worm **32** is rotated, and thus worm wheel **30** is moved in the Y axis direction along with Y-axis direction driving shaft **23**. Therefore, charging coil **8** is moved in the Y axis direction.

[0076] The reference numeral **35** illustrated in FIG. **4** indicates a flexible wiring causing a current to flow through charging coil **8**, and an end of flexible wiring **35** is fixed to the side surface of above-described support leg **17**.

[0077] As illustrated in FIG. **9**, controller **10** is connected to motor **28** via X-axis motor controller **36**, and is connected to motor **33** via Y-axis motor controller **37**.

[0078] Controller **10** is connected to charging coil **8** via charging coil controller **38**, and is also connected to position detection coils **14** via position detection coil controller **39**.

[0079] Next, a description will be made of a configuration of detecting whether or not there is a foreign object on the front surface side (upper surface side) of front surface plate **11** during conduction of charging coil **8**.

[0080] In the present exemplary embodiment, as described above, foreign object detection coils **55** detect whether or not there is a foreign object on the front surface side (upper surface side) of front surface plate **11** during non-conduction of charging coil **8** (before conduction of charging coil **8**). On the other hand, during conduction of charging coil **8** (after conduction of charging coil **8**), the presence of a foreign object is detected by large diameter detection coil **43** illustrated in FIGS. **12** and **13** provided between charging coil **8** and the mobile terminal placement portion of support plate **6**, and detection coil **44** which is disposed inside detection coil **43**. Detection coil **44** has a smaller diameter than that of detection coil **43**.

[0081] Specifically, since charging coil **8** is movable depending on a location where mobile terminal **15** is placed, detection coils **43** and **44** are disposed on the upper surface of charging coil **8** (the surface on support plate **6** side), and are moved along with charging coil **8**.

[0082] Large diameter detection coil **43** has nearly the same size as the outer diameter of annular charging coil **8** (the detection coil is slightly smaller than the outer diameter of charging coil **8**), and small diameter detection coil **44** has nearly the same size as the inner diameter of annular charging coil **8** (the detection coil is slightly larger than the inner diameter of charging coil **8**).

[0083] As illustrated in FIG. **9**, large diameter detection coil **43** and small diameter detection coil **44** are connected to controller **10** via voltage detectors **45** and **46**, respectively.

[0084] The reference numeral **47** illustrated in FIG. **9** indicates a memory which stores a program or the like for performing a safety operation on metal foreign objects by using large diameter detection coil **43** and small diameter detection coil **44**.

[0085] In the present exemplary embodiment, if a metal foreign object is present between the mobile terminal placement portion (the upper surface of support plate **6**) and mobile terminal **15**, it is found that a magnetic flux in the inner portion of charging coil **8** decreases, and, conversely, a magnetic flux in the outer portion increases, and this state is detected by large diameter detection coil **43** and small diameter detection coil **44**.

[0086] Hereinafter, this state will be described with reference to FIGS. **13** to **18** simplified for better understanding.

[0087] FIG. **14** illustrates a state in which mobile terminal **15** is being charged (during conduction of charging coil **8**) in a state in which there is no metal foreign object between the mobile terminal placement portion (the upper surface of support plate **6**) and mobile terminal **15** as in FIG. **3**.

[0088] In FIGS. **13** to **18**, the reference numeral **48** indicates a magnetic body for forming a magnetic path, provided on a lower side (an opposite side to mobile terminal **15**) of charging coil **8** in main body case **7** of mobile terminal charging device **5**. The reference numeral **49** indicates a magnetic body for forming a magnetic path, provided on an upper side (an opposite side to mobile terminal charging device **5**) of terminal charging coil **15***a* in mobile terminal **15**.

[0089] If a charging operation is performed, as illustrated in FIG. **14**, a magnetic flux from charging coil **8** of mobile terminal charging device **5** is supplied to terminal charging coil **15***a* of mobile terminal **15**. This magnetic flux induces a voltage in terminal charging coil **15***a*, and thus mobile terminal **15** is charged by the voltage.

[0090] The magnetic flux having passed through terminal charging coil **15***a* returns to charging coil **8** via magnetic body **49**, a space, and magnetic body **48** as indicated by arrows.

[0091] In contrast, FIG. **15** illustrates a state in which mobile terminal **15** is being charged in a state in which non-magnetic metal foreign object **50** (for example, a coin made of aluminum) is present between the mobile terminal placement portion (the upper surface of support plate **6**) and mobile terminal **15**.

[0092] In this case, as illustrated in FIG. **15**, an eddy current is induced in metal foreign object **50** by a magnetic flux passing through metal foreign object **50**. As a result, a magnetic flux is generated as indicated by a counterclockwise arrow in FIG. **15**.

[0093] The magnetic flux indicated by the counterclockwise arrow has a direction opposite to a direction of a magnetic flux directed from charging coil **8** toward terminal charging coil **15***a* in an inner portion of metal foreign object (the central direction of charging coil **8**). The magnetic flux indicated by the counterclockwise arrow has the same direction as the direction of the magnetic flux directed from charging coil **8** toward terminal charging coil **15***a* in an outer portion (a direction opposite to the center of charging coil **8**).

[0094] As a result, as illustrated in FIG. **16**, among the magnetic fluxes directed from charging coil **8** toward terminal charging coil **15***a*, a magnetic flux advancing in the inner peripheral direction of charging coil **8** is curved outward from the inner peripheral portion of charging coil **8** and is then directed toward terminal charging coil **15***a*.

[0095] In other words, the magnetic flux in the inner peripheral portion of charging coil **8** decreases, and, conversely, the magnetic flux in the outer peripheral portion of charging coil **8** increases.

[0096] In this situation, in the present exemplary embodiment, since large diameter detection coil **43** is provided on the upper surface side (terminal charging coil **15***a* side) of charging coil **8** and small diameter detection coil **44** is provided inside detection coil **43** as described above, a state illustrated in FIG. **16** can be detected by detection coils **43** and **44**.

[0097] Specifically, a first voltage (V**1**) detected by large diameter detection coil **43** increases (as a result of there being a large number of magnetic fluxes, and a distance to the magnetic fluxes also becoming short). Conversely, a second voltage (V**2**) detected by small diameter detection